

Chapter 1 Proposed Project

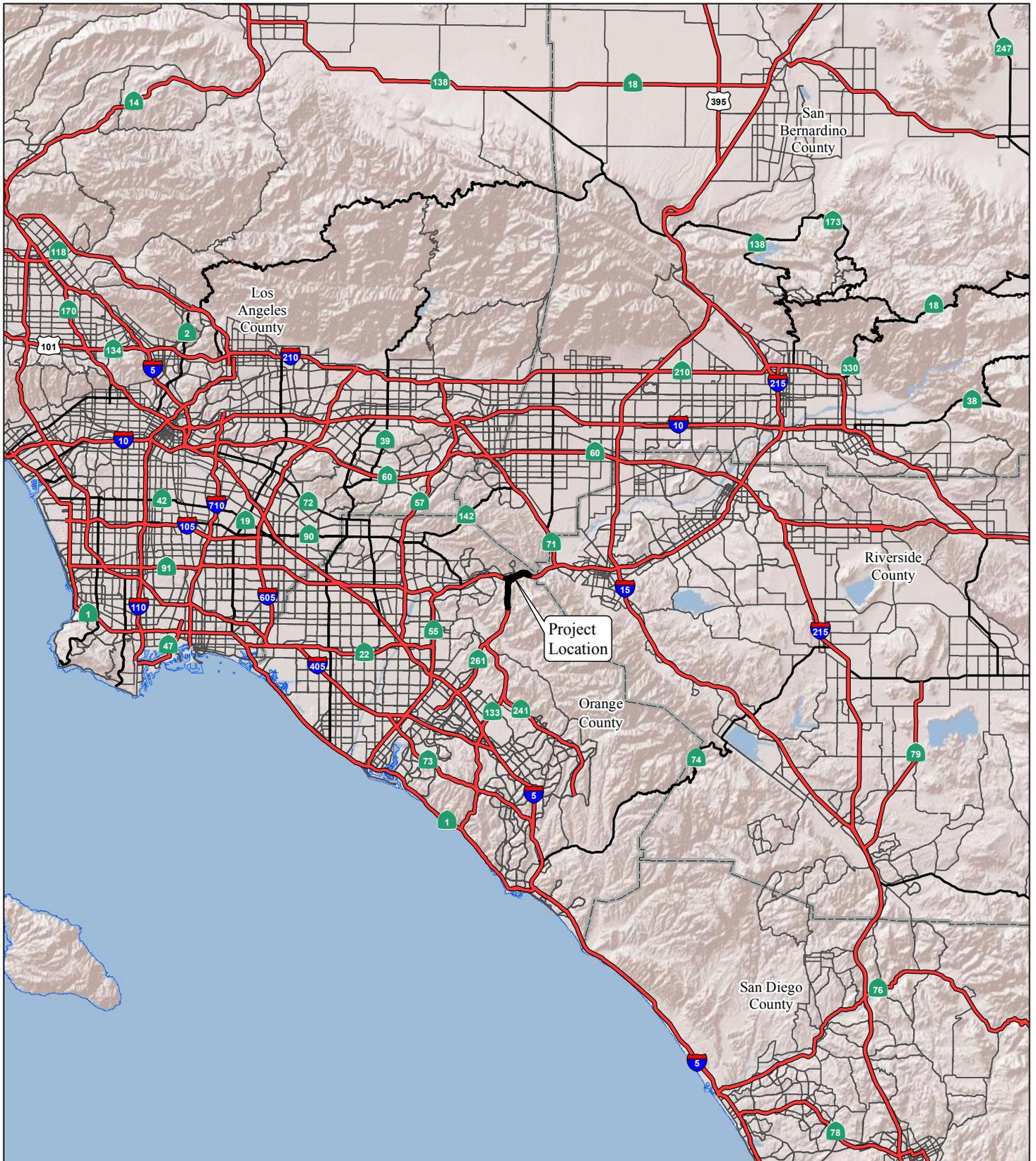
1.1 Introduction

The California Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act (CEQA). Caltrans is also the lead agency under the National Environmental Policy Act of 1969 (NEPA), as assigned by the Federal Highway Administration (FHWA), in accordance with NEPA (42 United States Code [USC] 4321 et seq.); and the Council on Environmental Quality (CEQ) Regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500–1508). Caltrans District 12, in cooperation with the Foothill/Eastern Transportation Corridor Agency (F/ETCA) proposes the State Route 241/State Route 91 (SR-241/SR-91) Express Lanes Connector Project (Proposed Project) to construct a median-to-median connector between SR-241 and the tolled lanes in the median of SR-91 (*91 Express Lanes*). SR-241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. The *91 Express Lanes* is a two-lane tolled facility, in each direction, located in the median of SR-91, from State Route 55 (SR-55), to the Orange/Riverside County line (east of the SR-241 interchange). The existing interchange connects all lanes of northbound SR-241 to non-tolled general purpose lanes of eastbound and westbound SR-91 and the eastbound and westbound SR-91 to southbound SR-241. There is currently no direct connection between the SR-241 and the *91 Express Lanes*. Funding sources may include F/ETCA cash on hand, the issuance of non-recourse toll revenue bonds, and State, local and/or federal sources.

The Proposed Project, located at the junction of SR-241 and SR-91 in the cities of Anaheim, Yorba Linda, and Corona and the counties of Orange and Riverside, would provide improved access between SR-241 and SR-91 and is proposed to be a tolled facility. The proposed median-to-median connector project encompasses 12-ORA-241 (Post Mile [PM] 36.1/39.1), 12-ORA-91 (PM 14.7/18.9), and 08 RIV-91 (PM 0.0/1.5) for a length of approximately 8.7 miles (mi). The Project Vicinity and the Project Location are shown in Figures 1.1 and 1.2, respectively.

The improvements for the connector include 5.9 mi in the cities of Anaheim and Yorba Linda and unincorporated Orange County from south of the Windy Ridge Wildlife Undercrossing on SR-241 to Coal Canyon Undercrossing on SR-91. The remaining 2.8 mi of the Proposed Project include FasTrak signage improvements

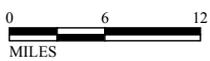
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█ Project Location

FIGURE I.1



SOURCE: Thomas Bros (2011)

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SR-241/SR-91 Express Lanes Connector

Project Vicinity

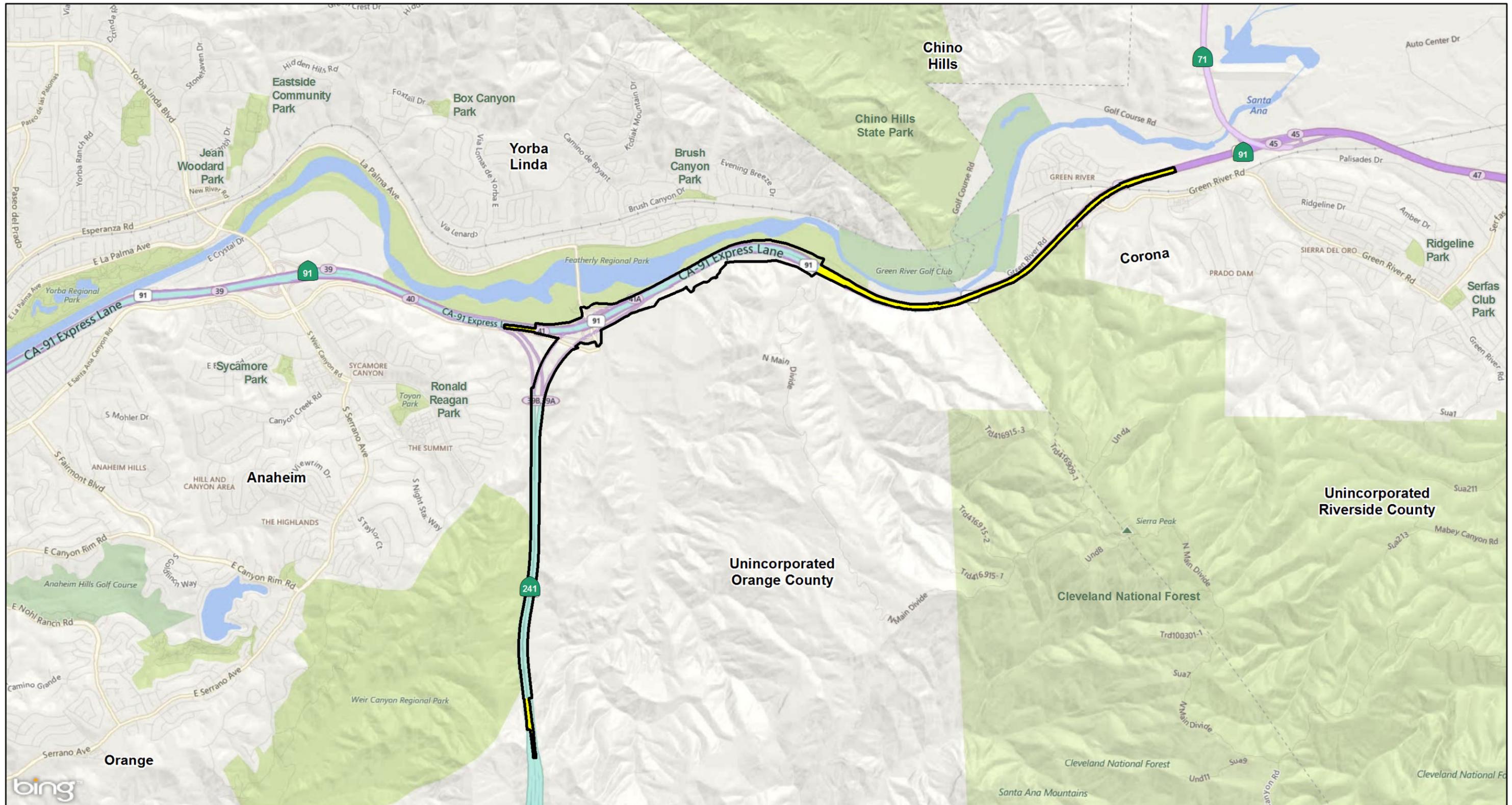
12-ORA-241 PM 36.1/39.1

12-ORA-91 PM 14.7/18.9

08-RIV-91 PM 0.0/1.5

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- Project Location
- Advance Signage Areas



SOURCE: Bing (2014)

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FIGURE I.2

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(advance signage) in the cities of Anaheim (1.2 mi total), Yorba Linda (0.1 mi) and Corona (1.5 mi) and unincorporated Orange and Riverside Counties, with exact placement pending the Final Design process. The Proposed Project is mostly within existing Caltrans right-of-way, with one partial acquisition adjacent to eastbound SR-91. Construction access and staging areas would occur within existing Caltrans right-of-way and the partial acquisition adjacent to eastbound SR-91 as noted above.

On April 7, 2016, the Southern California Association of Governments (SCAG) adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy¹ (2016 RTP/SCS). Also, SCAG received its conformity determination from the FHWA and the Federal Transit Administration (FTA) indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 Federal Transportation Improvement Program (FTIP) Consistency Amendment have been met. The Proposed Project is included in the 2016 RTP/SCS,² which was found to be conforming by the FHWA/FTA on June 1, 2016. The Proposed Project is also included in Amendment 15-12 to the 2015 FTIP, which was found to be conforming by the FHWA/FTA on June 2, 2016 (Project ID: ORA111207; Description: HOV/HOT Connector: NB SR-241 to EB SR-91, WB SR-91 to SB SR-241 (1 Lane each dir). Copies of the Proposed Project listings from the 2016 RTP/SCS and 2016 FTIP are included in Appendix E.

Caltrans will issue a single document that consists of the Supplemental Final Environmental Impact Statement and Record of Decision pursuant to Pub. L. 112-141, 126 Stat. 405, Section 1319(b) unless it is determined that statutory criteria or practicability considerations preclude issuance of such a combined document.

1.1.1 Existing Facility

SR-241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. There are two mainline toll stations, including one at Windy Ridge, south of the SR-91 interchange. Approximately half of the ramps are tolled as well, depending on the direction of travel and proximity to the mainline stations. Toll stations have both FasTrak and license plate readers, and no cash is

¹ Southern California Association of Governments (SCAG). 2016a. April. 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS). Website: <http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx> (accessed July 2016).

² SCAG. 2016b. June. Federal Conformity Determination for 2016 RTP/SCS. Website: <http://scagrtpscs.net/Pages/details.aspx?list=Announcements&lid=18&source=/pages/news.aspx> (accessed July 2016).

accepted. The toll-pricing structure on SR-241 is the same for all vehicle types, regardless of occupancy. SR-241 is owned and maintained by Caltrans, with the F/ETCA operating the toll facilities.

The *91 Express Lanes* is a two-lane tolled facility, in each direction, located in the median of SR-91, from SR-55, to the Orange/Riverside County line (east of the SR-241 interchange).

To the west and east of the *91 Express Lanes* termini, there are high-occupancy vehicle (HOV) lanes on SR-91 that extend from the Interstate 110 (I-110) freeway in Gardena to the west and to the Madison Street interchange in the City of Riverside to the east. The Orange County Transportation Authority (OCTA) operates the *91 Express Lanes*. The Riverside County Transportation Commission (RCTC) is currently constructing the SR-91 Corridor Improvement Project (CIP). The SR-91 CIP will extend the tolled express lanes on SR-91 between the Orange County/Riverside County line and Interstate 15 (I-15). These new *91 Express Lanes* will be operated by RCTC.

The *91 Express Lanes* require all drivers to have a FasTrak transponder to pay for the toll. There is no ingress/egress except at the endpoints, so there is only a single toll station in the middle of the tolled segment. Toll rates vary by day-of-week and time-of-day, and are set in advance by OCTA, using historical traffic patterns. These rates remain the same for several months until they are updated. OCTA maintains a toll policy that describes the criteria for changing the tolls.¹ RCTC has adopted a similar toll policy for the SR-91 express lanes in the County of Riverside, currently under construction as part of the SR-91 CIP.²

Vehicles on the *91 Express Lanes* with three or more persons can use the facility toll-free (although they still are required to have a transponder), except when traveling eastbound on Monday through Friday between the hours of 4:00 PM and 6:00 PM. During that peak time, when traveling through the 3+ lane reader, drivers receive a 50 percent discount on the posted toll. The discount policy also applies to zero emission vehicles, motorcycles, vehicles with disabled plates and disabled veterans.

¹ Orange County Transportation Authority. 91 Express Lanes. Website: <http://www.91expresslanes.com/policies.asp> (accessed May 20, 2015).

² Riverside County Transportation Commission. SR-91 Project. Website: <http://www.sr91project.info/tolled-express-lanes> (accessed May 20, 2015).

The SR-241/SR-91 interchange connects all lanes of the northbound and southbound SR-241 to the non-tolled, general purpose lanes of eastbound and westbound SR-91.

1.1.2 Project Background/History

The proposed median-to-median connector is a later phase of the Eastern Transportation Corridor (ETC) project, previously approved in 1994. It was originally evaluated as a SR-241/SR-91 HOV direct connector in the 1991 ETC Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS), 1992 ETC Final EIR, and the 1994 ETC Final EIS (all of which studied a broader project area with improvements on State Route 133 [SR-133], SR-241, and State Route 261 [SR-261]).

The Preferred Alternative selected for the ETC Final EIR and Final EIS included a single alignment called the North Leg through Gypsum and Blind Canyons transitioning to the East Leg south of Santiago Canyon Road. The East Leg crosses Loma Ridge near Rattlesnake Canyon, extends southeasterly toward Siphon Reservoir where the ETC interchanges with the Foothill Transportation Corridor (FTC) and then extends southerly along the Orange County Great Park to the I-5/SR-133 interchange. Construction of SR-241 began in 1996 and was completed in 1998.

The Systems Management Concept (SMC)¹ for the ETC projected that each Build Alternative would be staged, incorporating general purpose traffic and eventually HOV lanes, to meet the forecasted demand. Under the SMC, ETC construction would be completed in one stage, with three or more phases.

To implement this later phase of the ETC, this Draft Supplemental EIR/EIS has been prepared to:

- Focus on the northern end of the original project;
- Address changes to environmental conditions and regulatory requirements; and
- Address the extended Project Limits on SR-91 to the east; and
- Comply with 23 CFR 771.129(b): *“A written evaluation of the final EIS will be required before further approvals may be granted if major steps to advance the action (e.g., authority to undertake final design, authority to acquire a significant*

¹ The SMC defines the environment in which the freeway is to operate and the needs of the users. It is a tool by which regions, agencies, and traffic management centers identify the optimal solution on their preferred approaches, capabilities, and constraints.

portion of the right-of-way, or approval of the plans, specifications, and estimates) have not occurred within three years after the approval of the final EIS.” Because the SR-241/SR-91 Express Lanes Connector design was postponed longer than 3 years after the ETC Final EIS approval, the median-to-median connector is required to be re-evaluated in compliance with NEPA.

This Draft Supplemental EIR/EIS includes a No Build and only one Build Alternative for the median-to-median connector for the following reasons:

- The median-to-median connector is a component of a previously approved project and alternative selected during the 1992 EIR Certification and 1994 Record of Decision (ROD) for the original ETC project;
- Various alternatives were studied for the previously approved project that included consideration of a reasonable range of potentially feasible alternatives; and
- There are limited locations for a median-to-median connector between SR-241 and SR-91.

1.1.3 Related Project

1.1.3.1 SR-91 Corridor Improvement Project

On October 23, 2012, the ROD for the Initial Phase of the SR-91 CIP EIR/EIS was signed by Caltrans. The SR-91 CIP is being implemented with the cooperation of FHWA, Caltrans, and RCTC. The Initial Phase includes extending the existing express lanes in the County of Orange east from the Orange/Riverside County line to I-15 in the City of Corona. The existing HOV lanes would be converted to tolled express lanes. Direct tolled express lane connectors would be constructed on southbound and northbound I-15 near the Ontario Avenue interchange through the SR-91/I-15 interchange to connect to the eastbound and westbound SR-91 tolled express lanes. Auxiliary lanes would be added at various locations. The Initial Phase of the SR-91 CIP is expected to be completed by 2017.

Once the Initial Phase of the SR-91 CIP is constructed, median express lanes will exist on SR-91 between SR-55 and I-15 and will replace the existing HOV lanes between the Orange/Riverside County line and I-15.

The Ultimate Phase of the SR-91 CIP includes one general purpose lane on SR-91 in each direction, between the junction of SR-241 and SR-91 and Pierce Street in the City of Riverside and is planned for completion in 2035. This phase would also add an additional toll lane on SR-91 in each direction between I-15 and SR-241.

1.2 Purpose and Need

1.2.1 Purpose of the Proposed Project

In addition to the originally intended objectives of the ETC, changed circumstances at the SR-241/SR-91 interchange have led to the following objectives for the Proposed Project:

- Implement the build out of the ETC, as approved in 1994;
- Attain compatibility with the SR-91 mainline and SR-91 Express Lanes;
- Improve traffic flow and operations by reducing weaving across multiple general purpose lanes between the SR-91 Express Lanes and the SR-241 general purpose lane connectors; and
- Enhance the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on SR-91.

1.2.2 Need for the Proposed Project

There is a need for improved access between SR-241 and SR-91. Roadway deficiencies are described below:

- Demand exceeds capacity on the northbound SR-241 connector to eastbound SR-91 and on the westbound SR-91 connector to southbound SR-241
- Northbound vehicles on SR-241 cannot access the eastbound SR-91 Express Lane
- Westbound SR-91 Express Lanes motorists cannot access southbound SR-241.
- The weaving between the general purpose connectors and the median lanes is an issue because it degrades the level of service due to increased vehicle density. In addition, the weaving operations contribute to sideswipe accidents.

1.2.2.1 Capacity, Transportation Demand, and Safety

Freeway traffic flow can be defined in terms of level of service (LOS). For freeways, there are six defined LOS, ranging from LOS A to LOS F. LOS A represents free traffic flow with low traffic volumes and high speeds, and LOS F represents traffic volumes that exceed the facility capacity and result in forced flow operations at low speeds, as shown on Figure 1.3.

The information in this section is based on the *Traffic Analysis Report* for the Proposed Project (July 2015). The Study Area was chosen to be wide enough to capture the changes in traffic operations caused by the Proposed Project. The freeway network includes SR-91 from west of the Weir Canyon Road interchange in Anaheim

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<h1 style="text-align: center;">LEVELS OF SERVICE</h1> <p style="text-align: center;">for Freeways</p>			
Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. No delays
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. No delays
C		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. Minimal delays
D		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. Minimal delays
E		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. Significant delays
F		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. Considerable delays

Figure 1.3 LOS Thresholds for a Basic Freeway Segment

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Hills to east of the Serfas Club Drive/Auto Center Drive interchange in the City of Corona. The network also includes SR-241 north of the Santiago Canyon Road interchange and State Route 71 (SR-71) south of the Butterfield Ranch Road interchange.

Data collection for the *Traffic Analysis Report* began in 2013; therefore, this date is used for the Existing Conditions for traffic analysis. Due to population growth, traffic demand would increase between 2013 and 2015 by approximately 2 percent, which would reduce the average speed in the Study Area by a nominal amount in the peak hours due to over-saturated conditions that will remain on the general purpose lanes.

As described in this section, SR-91 is continuing to experience increased congestion as a result of population growth in the Inland Empire and the increase in jobs in the County of Orange.¹ As a result of population growth, the numbers of vehicles on SR-91 are expected to increase by approximately 50 percent by 2035, which would result in continuing congestion and delays on SR-91.²

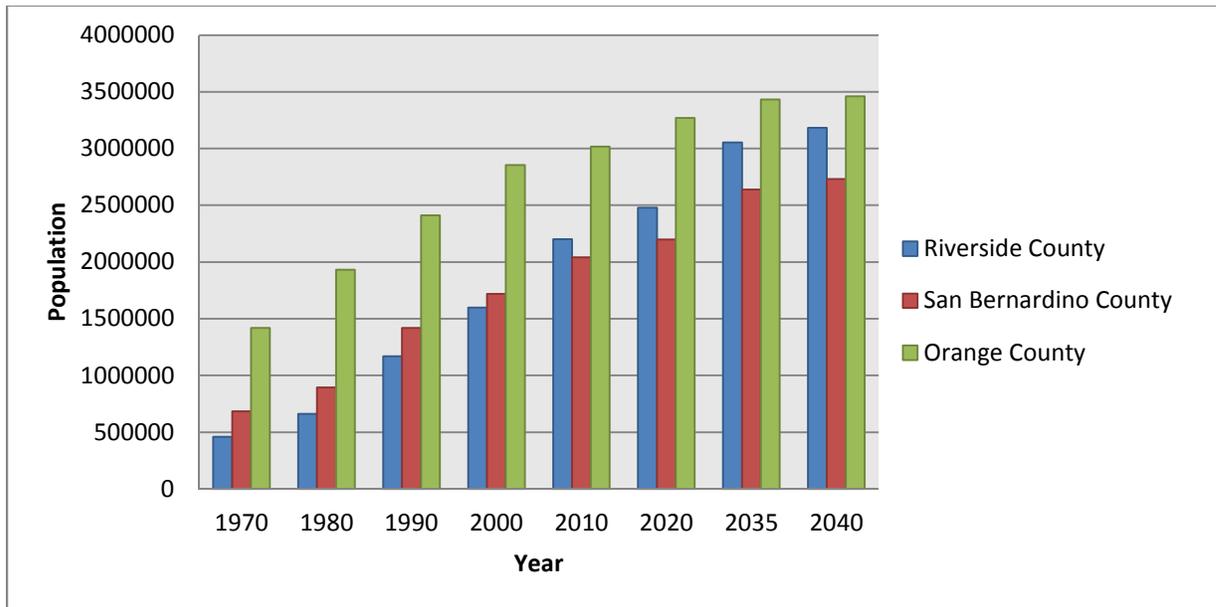
Population Projections

The Proposed Project would improve connectivity between the Counties of Orange, Riverside, and San Bernardino. The Inland Empire consists of both Riverside and San Bernardino Counties, and is expected to experience greater growth as a result of available land area in comparison to coastal counties. SCAG projects that between 2012 and 2040, the population of the County of Riverside will grow approximately 42 percent, the population of the County of San Bernardino will grow approximately 32 percent, and the population of the County of Orange will grow approximately 13 percent. Figure 1.4 illustrates the population growth patterns from 1970 to 2040 for the Counties of Orange and Riverside based on both historical U.S. Census data and SCAG projections. Figure 1.5 illustrates the population growth patterns in the cities of Anaheim, Corona, Orange, Riverside, Yorba Linda, Chino, and Chino Hills from 1970 to 2040.

¹ Southern California Association of Governments (SCAG). 2016–2040 Draft Regional Transportation Plan/Sustainable Community Strategy Growth Forecast Appendix (December 2015). Website: <http://www.scag.ca.gov/Documents/2016DraftGrowthForecastByJurisdiction.pdf> accessed March 2, 2016).

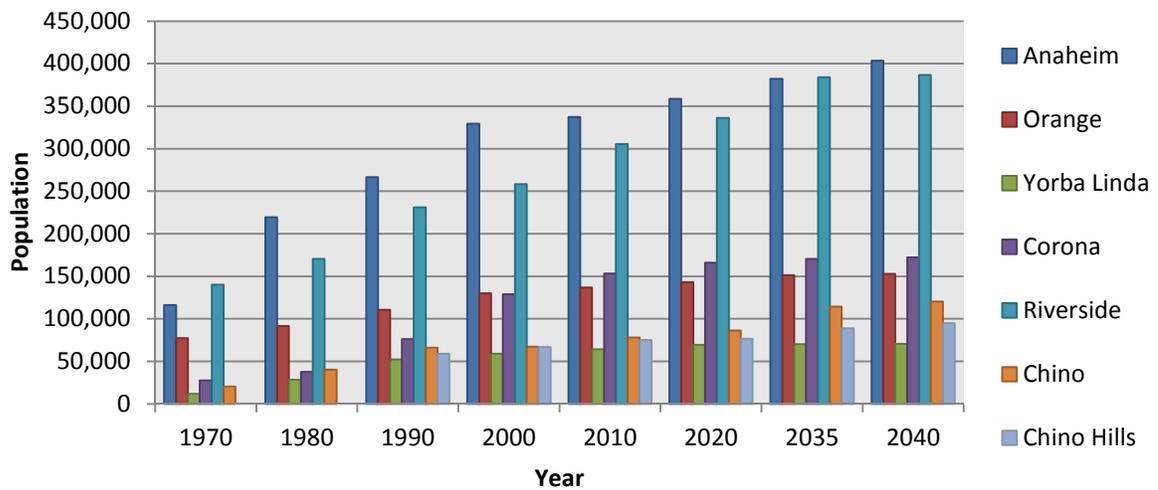
² SR-91 CIP Traffic Study Report (July 2010).

Figure 1.4 County Population Growth Patterns – 1970 to 2040



Sources: United States Census Bureau (Years 1990–2010)¹; Southern California Association of Governments (Years 2020–2040).

Figure 1.5 City Population Growth Patterns – 1970 to 2040



Sources: United States Census Bureau (Years 1970–2010, with the exception of the City of Chino and the City of Chino Hills for the Years 1970-1980); Southern California Association of Governments (Years 2020–2040); Department of Finance (Years 1970-1980 for the City of Chino and the City of Chino Hills).

¹ United States (U.S.) Census Bureau. California Population of Counties by Decennial Census: 1900 to 1990. Website: <http://www.census.gov/population/cencounts/ca190090.txt> (accessed January 26, 2015).

City of Anaheim

According to the 2000 U.S. Census, the population of the City of Anaheim increased by 23 percent between 1990 and 2000. However, between 2000 and 2010, the population of the City of Anaheim increased by only 2.5 percent. In 2010, the population of the City of Anaheim was 337,354 persons, which accounted for approximately 11 percent of the total population in the County of Orange.

According to SCAG population growth projections from the 2016–2040 Draft RTP/SCS, the total population in the City of Anaheim is expected to increase by approximately 20 percent, to more than 403,400 residents between 2010 and 2040.¹

City of Orange

The population within the City of Orange grew by approximately 21 percent between 1980 and 1990, and by approximately 17 percent between 1990 and 2000. Population growth slowed considerably to about 5 percent between 2000 and 2010. Similarly, SCAG population growth projections from the 2016–2040 Draft RTP/SCS expect the City of Orange to reach a population of 153,000 by 2040, which represents an increase of approximately 12 percent above the population in 2010.²

City of Yorba Linda

The population of the City of Yorba Linda increased dramatically between 1980 and 1990 (86 percent), from 28,251 to 42,422 persons, exceeding the growth rates in many of the other cities in north Orange County and the County of Orange overall. The total population in the City of Yorba Linda as reported in the 2010 U.S. Census was 64,423 persons. The main factor limiting additional population growth in Yorba Linda is the relatively small amount of available land for residential development. Nevertheless, according to SCAG population growth projections from the 2016–2040 Draft RTP/SCS, the total population in the City of Yorba Linda is expected to continue to increase to more than 70,500 residents by 2040.³ Given that the City of Yorba Linda is relatively built out, future housing growth will primarily be accommodated on the City's periphery.

¹ United States (U.S.) Census Bureau. California Population of Counties by Decennial Census: 1900 to 1990. Website: <http://www.census.gov/population/cencounts/ca190090.txt> (accessed January 26, 2015).

² SCAG. 2016–2040 Draft Regional Transportation Plan/Sustainable Community Strategy Growth Forecast Appendix (December 2015). Website: <http://www.scag.ca.gov/Documents/2016DraftGrowthForecastByJurisdiction.pdf> (accessed March 2, 2016).

³ Ibid.

City of Corona

According to the U.S. Census, between 1990 and 2000, the population of the City of Corona increased over 64 percent from 76,095 to 124,966 persons, which made it the fastest-growing city in the region over that time period. This increase was more than twice the percentage increase for the County of Riverside (32 percent) for the same period. In 2010, the City of Corona had 153,179 residents. According to SCAG population growth projections from the 2016–2040 Draft RTP/SCS, by 2040, the population of the City of Corona is projected to increase approximately 12 percent, to almost 172,300 people.¹

City of Riverside

According to the 2010 U.S. Census, the City of Riverside had over 305,500 residents in 2010. Between 2000 and 2010, the population in the County of Riverside increased by 18.2 percent. SCAG population growth projections from the 2016–2040 Draft RTP/SCS estimate that the population of the City of Riverside will increase approximately 26 percent by 2040, to more than 386,600 residents.²

City of Chino

According to the 2010 U.S. Census, the City of Chino had nearly 78,000 residents in 2010. Between 2000 and 2010, the population of in the City of Chino increased by approximately 16 percent. SCAG population growth projections from the Draft 2016–2040 RTP/SCS estimate that the population in the City of Chino will increase approximately 54 percent by 2040, to 120,400 residents.³

City of Chino Hills

According to the 2010 U.S. Census, the City of Chino Hills had nearly 75,000 residents in 2010. Between 2000 and 2010, the population of in the City of Chino Hills increased by approximately 12 percent. SCAG population growth projections from the Draft 2016–2040 RTP/SCS estimate that the population in the City of Chino Hills will increase approximately 26 percent by 2040, to 94,900 residents.⁴

¹ SCAG. 2016–2040 Draft Regional Transportation Plan/Sustainable Community Strategy Growth Forecast Appendix (December 2015). Website: <http://www.scag.ca.gov/Documents/2016DraftGrowthForecastByJurisdiction.pdf> (accessed March 2, 2016).

² Ibid.

³ Ibid.

⁴ Ibid.

Demand

As shown in Table 1.1, as a result of population growth, vehicle demand (the number of vehicles wanting to move through the Study Area) during the peak periods is projected to increase by approximately 45 percent in the AM peak period (from 82,377 to 119,605 vehicles) and approximately 50 percent during the PM peak period (from 111,837 to 168,494 vehicles) between the years 2013 and 2040. The peak period is defined as the entire morning or evening commute period: 6:00 AM to 9:00 AM and 3:00 PM to 7:00 PM.

Table 1.1 Total Demand for Existing (2013), Opening (2017 data),¹ and Design (2040) Years

	AM Peak Period			PM Peak Period		
	2013	2017	2040	2013	2017	2040
Total Demand (no. of vehicles)	82,377	100,741	119,605	111,837	141,937	168,494

Source: *Traffic Analysis Report* (June 2015).

¹ The revised planned opening year is 2020. The difference in traffic operations between 2017 and 2020 would be nominal. Although the revised opening year is 2020, all of the tables still refer to 2017 as this is the year for which the modeling was completed.

Travel Time/Vehicle Speed

Existing (2013) Conditions¹

In existing (2013) conditions, heavy peak hour flows occur in the westbound direction on SR-91 in the morning and in the eastbound direction in the evening.

Table 1.2 shows speeds and travel times during peak hours for the map points shown in Figure 1.6.

As shown in Table 1.2, during the AM peak hours (between 6:00 and 8:00 AM), westbound traffic traveling on SR-91 is congested, with speeds at 24 to 31 miles per hour (mph) between SR-71 and the County Line (Map Points E to D) and at 37 to 38 mph between east of Serfas Club Drive/Auto Center Drive and the County Line (Map Points F to D). Therefore, travel times in these areas are almost two times longer than non-peak hours with free-flowing traffic (assuming a speed of 65 to 70 mph for free-flowing traffic).

¹ For transportation/traffic, air quality, noise, and energy analyses, 2017 No Build conditions were used as the environmental baseline because the SR-91 CIP will be completed in 2017 and will substantially increase traffic volumes in the Project Area. Refer to Chapter 3, page 3-2, for a discussion of the environmental baseline.

Table 1.2 Existing (2013) AM and PM Peak Hour Travel Speed and Travel Times

Segment Description		Map Points	AM Peak Hours						PM Peak Hours							
			6:00–7:00		7:00–8:00		8:00–9:00		3:00–4:00		4:00–5:00		5:00–6:00		6:00–7:00	
			Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)
Westbound	SR-91 east of Serfas Club Drive/Auto Center Drive to SR-91 County Line	F to D	38	4.9	37	5.1	45	4.2	68	2.8	67	2.8	67	2.8	68	2.7
	SR-91 County Line to SR-91 northbound SR-241 merge	D to C	57	2.7	52	3.0	58	2.7	62	2.5	62	2.5	61	2.5	61	2.5
	SR-91 northbound SR-241 merge to SR-91 west of Weir Canyon Road	C to A	67	3.5	67	3.5	68	3.5	64	3.7	65	3.7	65	3.7	64	3.7
	SR-71 north of SR-91 to SR-91 County Line	E to D	24	10.9	31	8.5	56	4.8	53	5.0	45	5.9	37	7.1	46	5.7
	SR-241 Windy Ridge to SR-91 west of Weir Canyon Road	E to A	64	7.2	64	7.2	64	7.2	64	7.2	60	7.7	48	9.7	36	12.9
Eastbound	SR-91 west of Weir Canyon Road to northbound SR-241 merge	A to C	68	3.5	67	3.5	67	3.5	28	8.5	16	15.0	13	18.6	13	18.0
	SR-91 northbound SR-241 merge to SR-91 County Line	C to D	68	2.3	67	2.3	67	2.3	18	8.7	21	7.5	20	7.9	22	7.0
	SR-91 County Line to SR-91 east of Serfas Club Drive/Auto Center Drive	D to F	67	2.8	65	2.8	65	2.8	18	10.5	21	8.8	20	9.1	29	6.4
	SR-241 Windy Ridge to SR-91 northbound SR-241 merge	B to C	63	5.8	63	5.8	63	5.8	29	12.8	20	17.9	16	22.5	14	26.7
	SR-71 north of SR-91 to SR-91 east of Serfas Club Drive/Auto Center Drive	E to F	30	10.9	38	8.6	59	5.5	29	11.3	27	12.1	24	13.6	34	9.4
	SR-91 west of Weir Canyon Road to SR-241 Windy Ridge	A to B	64	7.1	64	7.2	64	7.2	56	8.1	30	15.4	25	18.4	26	17.6
	SR-91 County Line to SR-71 north of SR-91	D to E	61	5.0	60	5.1	60	5.1	29	10.7	34	9.0	32	9.5	31	9.8

Source: *Traffic Analysis Report* (June 2015).

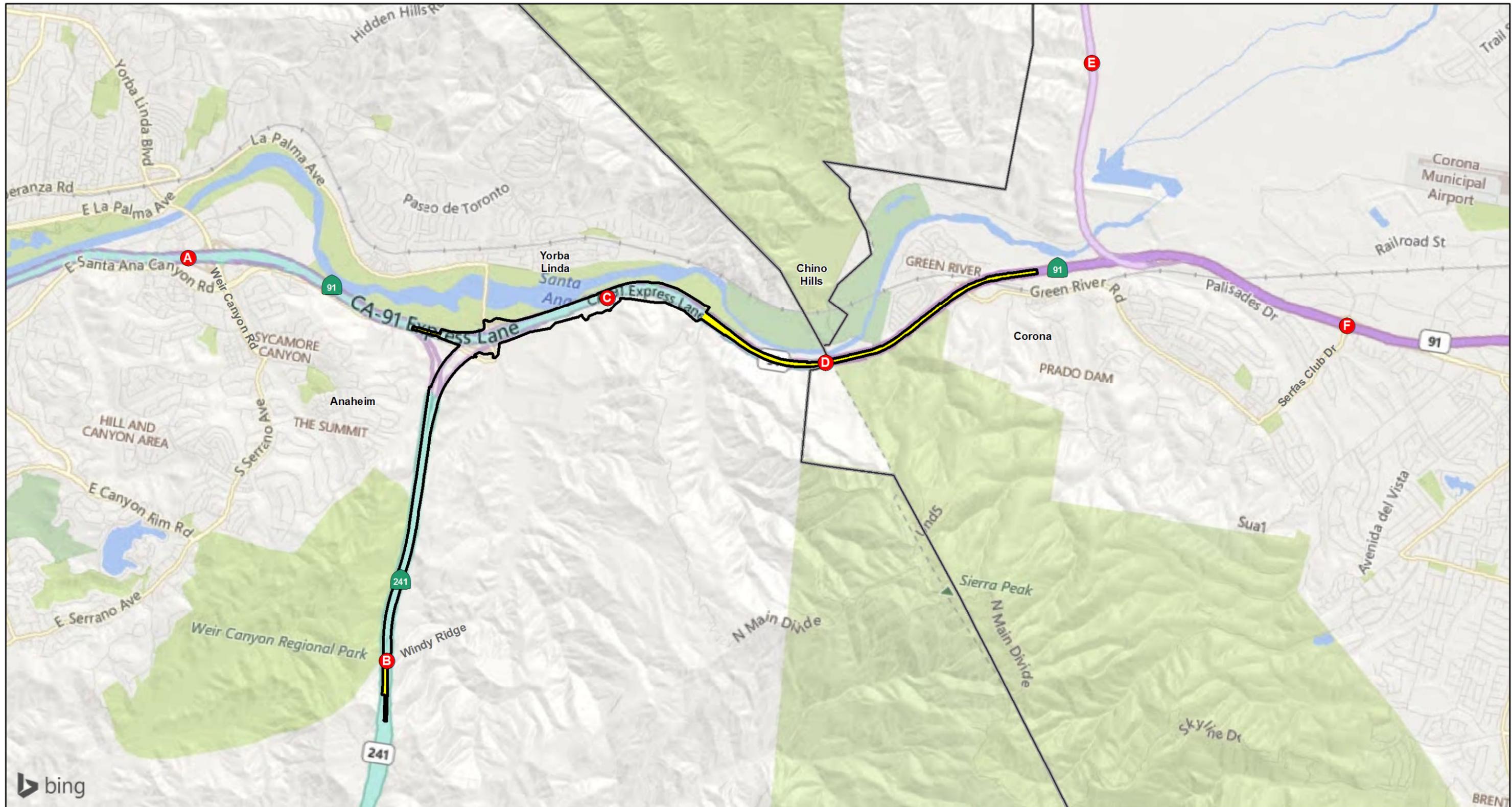
mph= miles per hour

mins = minutes

SR-71 = State Route 71

SR-91 = State Route 91

SR-241 = State Route 241



LEGEND

- Project Location
- Advance Signage Areas
- Existing (2013) Traffic Data Map Points



SOURCE: Bing (2014)

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FIGURE I.6

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During the PM peak hours, eastbound speeds range from 13 to 34 mph.. There is a bottleneck for vehicles traveling from northbound SR-241 to eastbound SR-91 in the PM peak period. Between SR-241 at Windy Ridge to the SR-91 northbound SR-241 merge (Map Points B to C), speeds are as low as 14 to 16 mph between 5:00 and 7:00 PM. Eastbound SR-91 between west of Weir Canyon Road to the northbound SR-241 merge (Map Points A to C) is also congested in the PM peak hours, with speeds at 13 to 16 mph between 4:00 and 7:00 PM. Therefore, travel times in these areas are almost four times longer than non-peak hours with free-flowing traffic.

Future (2017 and 2040) No Build Conditions

The Proposed Project was originally planned for opening in 2017 and was evaluated as such in the *Traffic Analysis Report* (July 2015). However, due to design modifications and the need to avoid conflicts with the SR-91 CIP, the revised planned opening year is 2020. As discussed in the *Traffic Analysis Report* (July 2015) and the *Traffic Analysis Report Errata Sheet* (July 2016), the difference in traffic operations between 2017 and 2020 in the Study Area would be nominal in the peak hours due to over-saturated conditions that will remain on the general purpose lanes. Although the revised opening year is 2020, all of the tables and analysis still refer to 2017 as this is the year for which the modeling was completed. The Traffic Engineer has stated that the changes from 2017 to 2020 would be nominal; therefore, there is no need to remodel the numbers for the revised opening year. The Proposed Project is planned to begin construction in 2018 and to open in 2020. The year 2040 was chosen to represent the long-term horizon year.

Based on the *Traffic Analysis Report*, and later shown in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, Tables 3.5.3 and 3.5.4, in 2017 and 2040, heavy peak hour flows will continue to occur in the westbound direction in the morning and in the eastbound direction in the evening in the traffic Study Area, due to many commuters traveling between communities in Riverside/San Bernardino Counties and work places in Los Angeles/Orange Counties.¹ In 2017, during the AM peak hours, vehicle speeds on the westbound SR-91 general purpose lanes would range from 10 to 26 mph between Serfas Club Drive/Auto Center Drive to the County Line (Map Points F to D). During the PM peak hours, eastbound speeds would range from 10 to 23 mph between west of Weir Canyon Road to the SR-241 merge (Map Points A to C). Therefore, travel times in these areas are almost four times longer than non-peak hours with free-flowing traffic.

¹ This is supported by 2010 United States Census data; please refer to Table 3.3.4 of this document.

In 2017, vehicle speeds on the *91 Express Lanes* would range from 65 to 70 mph throughout the Study Area in both the westbound and eastbound directions.

In 2040, during the AM peak hours, vehicle speeds on the westbound SR-91 general purpose lanes would range from 15 to 33 mph between Serfas Club Drive/Auto Center Drive to the County line (Map Points F to D). During the PM peak hours, eastbound speeds would range from 12 to 60 mph between west of Weir Canyon Road to the SR-241 merge (Map Points A to C). Between west of Weir Canyon Road to Gypsum Canyon Road, vehicle speeds would range from 12 to 24 mph. The speed increases east of Gypsum Canyon Road due to the additional general purpose lane added by the Ultimate SR-91 CIP.

In 2040, vehicle speeds on the *91 Express Lanes* would range from 65 to 70 mph throughout the Study Area in both the westbound and eastbound directions.

Future (2017 and 2040) Build Conditions

In the AM peak period in 2017, all of the travel times would either decrease (between 3.3 and 4.5 minutes) or stay the same in the westbound direction on SR-91 in the Build Conditions. In addition, the travel time on southbound SR-71 north of SR-91 would also decrease (between 8.2 to 11.2 minutes) in the Build Conditions. In the PM peak period in 2017, the travel time for the SR-91 eastbound general purpose lanes would slightly increase in the Build Conditions (between 1 to 2.5 minutes). The travel time for SR-241 northbound to SR-91 eastbound via the general purpose lane ramp would also increase in the Build Conditions by approximately 1.5 minutes; however, the travel time for SR-241 northbound to SR-91 eastbound via the new Express Lane ramp would decrease by 2.5 minutes. The increases in travel times for the SR-91 eastbound general purpose lanes are considered nominal given the increase in combined throughput that would be experienced in the same area (please refer to the following Volume Served section).

In the AM peak period in 2040, travel times for most of the segments would either stay the same or decrease in the westbound direction on SR-91 in the Build Conditions due to project improvements. The increases in travel times for the SR-91 eastbound general purpose lanes are considered nominal given the increase in combined throughput that would be experienced in the same area.

In the PM peak period in 2040, all of the travel times for most of the segments would either stay the same or decrease in the Build Conditions. The decrease in travel time

is due to the shift of trips from the SR-241 northbound to the SR-91 eastbound general purpose ramp over to the *91 Express Lanes* ramp.

Volume Served

Traffic volumes represent the number of vehicles on the roadway. Vehicle throughput on a freeway is the number (volume) of vehicles that travel through the system over a given period such as an hour. It is important to note that freeway traffic volumes are different than freeway traffic demands. Vehicle demand is the number of vehicles wanting to enter the system over a given period of time. With congestion, not all traffic can be served, so traffic demands are invariably higher than traffic volumes and queuing will occur. Along a congested corridor such as SR-91, this issue affects all freeway traffic in the corridor, during both peak periods.

The percent of unserved traffic is the percent of vehicles that wish to move through the Study Area and that cannot move through the Study Area during the peak traffic periods.

Existing (2013) Conditions

Table 1.3 shows the traffic demand, throughput, and percent of unserved traffic in the traffic Study Area for the existing peak periods. As shown in Table 1.3, demand is higher than throughput in the westbound direction in the AM peak period and in the eastbound direction in the PM peak period. This is indicative of a congested freeway system, with all vehicle demand not being served by the facility. In the Existing Conditions, the percent of unserved traffic is up to 3.3 percent in the westbound direction during the AM peak period east of Serfas Club/Auto Center Drive and up to 6.1 percent in the eastbound direction in the PM peak period between the SR-241 ramp (northbound SR-241 to eastbound SR-91) and Green River Road.

Future (2017 and 2040) No Build Conditions

As seen in Table 1.4, in the 2017 No Build Conditions, the percent of unserved traffic is projected to increase to as high as 17.4 percent in the westbound direction in the AM peak period between Green River Road and the SR-241 ramp (westbound SR-91 to southbound SR-241) and as high as 37.7 percent in the eastbound direction in PM peak period west of Weir Canyon Road.

As shown in Table 1.5, without improvements, by 2040, the percent of unserved traffic is projected to increase to as high as 16.7 percent in the westbound direction in the AM peak period between the SR-241 ramp (westbound SR-91 to southbound

Table 1.3 Existing (2013) Peak Period Vehicle Throughput Comparison

Location	Demand Volume			Throughput Volume			Percent Unserved		
	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall
Westbound AM (6:00 AM–9:00 AM)									
East of Serfas Club/Auto Center Drive	22038	5454	27492	21162	5436	26598	4.0%	0.3%	3.3%
Between Serfas Club/Auto Center Drive and SR-71	24026	5454	29480	23672	5436	29108	1.5%	0.3%	1.3%
Between SR-71 and Green River Road	24334	5454	29788	23999	5436	29435	1.4%	0.3%	1.2%
Between Green River Road and SR-241 Ramp (WB to SB)	27008	5454	32462	27927	5436	33363	-3.4%	0.3%	-2.8%
Between SR-241 GP Ramp (WB to SB) and Gypsum Canyon Road	20984	6888	27872	21231	6209	27440	-1.8%	9.9%	1.6%
Between Gypsum Canyon Road and SR-241 Ramp (NB to WB)	20438	6888	27326	20788	6209	26997	-1.7%	9.9%	1.2%
Between SR-241 Ramp (NB to WB) and Weir Canyon Road	21297	6888	28185	21632	6209	27841	-1.6%	9.9%	1.2%
West of Weir Canyon Road	21847	6888	28735	22043	6209	28252	-0.9%	9.9%	-1.7%
Eastbound PM (3:00 PM–7:00 PM)									
West of Weir Canyon Road	30649	11017	41666	30099	10978	41077	1.8%	0.4%	1.4%
Between Weir Canyon Road and SR-241 Ramp (EB to SB)	27226	11017	38243	27118	10978	38096	0.4%	0.4%	0.4%
Between SR-241 Ramp (EB to SB) and Gypsum Canyon Road	26357	11017	37374	25755	10978	36733	2.3%	0.4%	1.7%
Between Gypsum Canyon Road and SR-241 Ramp (NB to EB)	28281	11017	39298	27432	10978	38410	3.0%	0.4%	2.3%
Between SR-241 Ramp (NB to EB) and Green River Road	37661	11017	48678	34718	10978	45696	7.8%	0.4%	6.1%
Between Green River Road and SR-71	35018	11017	46035	34177	10978	45155	2.4%	0.4%	1.9%
Between SR-71 and Serfas Club/Auto Center Drive	33432	5835	39267	33319	5662	38981	0.3%	3.0%	0.7%
East of Serfas Club/Auto Center Drive	33628	5835	39463	33628	5662	39290	0%	3.0%	0.4%

Source: *Traffic Analysis Report* (June 2015).

EB = eastbound

GP = general purpose

SB = southbound

SR-71 = State Route 71

SR-91 = State Route 91

SR-241 = State Route 241

WB = westbound

Table 1.4 Opening Year (2017) No Build Peak Period Vehicle Throughput Comparison

Location	Demand Volume			Throughput Volume			Percent Unserved		
	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall
Westbound AM (6:00 AM–9:00 AM)									
East of Serfas Club/Auto Center Drive	22367	9185	31552	21575	9143	30718	3.5%	0.5%	2.6%
Between Serfas Club/Auto Center Drive	25820	9185	35005	24038	9143	33180	6.9%	0.5%	5.2%
Between SR-71 and Green River Road	26530	9185	35715	21917	9143	31059	17.4%	0.5%	13.0%
Between Green River Road and SR-241 Ramp (WB to SB)	33680	9185	42865	26256	9143	35398	22.0%	0.5%	17.4%
Between SR-241 GP Ramp (WB to SB) and Gypsum Canyon Road	26790	8040	34830	21368	7421	28789	20.2%	7.7%	17.3%
Between Gypsum Canyon Road and SR-241 Ramp (NB to WB)	25631	8040	33671	20951	7421	28372	18.3%	7.7%	15.7%
Between SR-241 Ramp (NB to WB) and Weir Canyon Road	26493	8040	34533	21738	7421	29159	17.9%	7.7%	15.6%
West of Weir Canyon Road	26041	8040	34081	22091	7421	29512	15.2%	7.7%	13.4%
Eastbound PM (3:00 PM–7:00 PM)									
West of Weir Canyon Road	44952	12164	57116	23492	12079	35570	47.7%	0.7%	37.7%
Between Weir Canyon Road and SR-241 Ramp (EB to SB)	43963	12164	56127	25622	12079	37701	41.7%	0.7%	32.8%
Between SR-241 Ramp (EB to SB) and Gypsum Canyon Road	42981	12164	55145	25006	12079	37084	41.8%	0.7%	32.8%
Between Gypsum Canyon Road and SR-241 Ramp (NB to EB)	46765	12164	58929	28490	12079	40569	39.1%	0.7%	31.2%
Between SR-241 Ramp (NB to EB) and Green River Road	56264	12160	684424	37201	10845	48046	33.9%	10.8%	29.8%
Between Green River Road and SR-71	47246	12160	59406	33517	10845	44363	29.1%	10.8%	25.3%
Between SR-71 and Serfas Club/Auto Center Drive	46179	12160	58339	35152	10845	45997	23.9%	10.8%	21.2%
East of Serfas Club/Auto Center Drive	41019	12160	53179	32247	10845	43092	21.4%	10.8%	19.0%

Source: *Traffic Analysis Report* (June 2015).

EB = eastbound

GP = general purpose

SB = southbound

SR-71 = State Route 71

SR-91 = State Route 91

SR-241 = State Route 241

WB = westbound

Table 1.5 Design Year (2040) No Build Peak Period Vehicle Throughput Comparison

Location	Demand Volume			Throughput Volume			Percent Unserved		
	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall
Westbound AM (6:00 AM–9:00 AM)									
East of Serfas Club/Auto Center Drive	27218	9185	36403	25992	9135	35127	4.5%	0.5%	3.5%
Between Serfas Club/Auto Center Drive	31564	9185	40749	30055	9135	39191	4.8%	0.5%	3.8%
Between SR-71 and Green River Road	32331	9185	41516	28451	9135	37586	12.0%	0.5%	9.5%
Between Green River Road and SR-241 Ramp (WB to SB)	41137	9185	50322	33034	9135	42169	19.7%	0.5%	16.2%
Between SR-241 GP Ramp (WB to SB) and Gypsum Canyon Road	33614	8040	41654	27200	7518	34718	19.1%	6.5%	16.7%
Between Gypsum Canyon Road and SR-241 Ramp (NB to WB)	32124	8040	40164	27028	7518	34546	15.9%	6.5%	14.0%
Between SR-241 Ramp (NB to WB) and Weir Canyon Road	33188	8040	41228	28005	7518	35523	15.6%	6.5%	13.8%
West of Weir Canyon Road	32492	8040	40532	28228	7518	35746	13.1%	6.5%	11.8%
Eastbound PM (3:00 PM–7:00 PM)									
West of Weir Canyon Road	55164	12164	67328	28247	12079	40326	48.8%	0.7%	40.1%
Between Weir Canyon Road and SR-241 Ramp (EB to SB)	54771	12164	66935	31232	12079	43311	43.0%	0.7%	35.3%
Between SR-241 Ramp (EB to SB) and Gypsum Canyon Road	53563	12164	65727	30457	12079	42536	43.1%	0.7%	35.3%
Between Gypsum Canyon Road and SR-241 Ramp (NB to EB)	58054	12164	70218	34548	12079	46627	40.5%	0.7%	33.6%
Between SR-241 Ramp (NB to EB) and Green River Road	68537	12160	80697	45851	10863	56714	33.1%	10.7%	29.7%
Between Green River Road and SR-71	35516	12160	47676	24751	10863	35614	30.3%	10.7%	25.3%
Between SR-71 and Serfas Club/Auto Center Drive	46089	12160	58249	35080	10863	45943	23.9%	10.7%	21.1%
East of Serfas Club/Auto Center Drive	39790	12160	51950	31361	10863	42224	21.2%	10.7%	18.7%

Source: *Traffic Analysis Report* (June 2015).

EB = eastbound

GP = general purpose

SB = southbound

SR-71 = State Route 71

SR-91 = State Route 91

SR-241 = State Route 241

WB = westbound

SR-241) and Gypsum Canyon Road and as high as 40.1 percent in the eastbound direction in the PM peak period west of Weir Canyon Road.

Future (2017 and 2040) Build Conditions

As shown in Section 3.5, Table 3.5.3, in the 2017 AM peak period, the Build Alternative would allow the corridor to serve more vehicles (about 2 percent) and more vehicles would be able to enter the Study Area. This represents a considerable improvement in the overall efficiency of the system. In the 2017 PM peak period, the Build Alternative is not projected to have a noticeable effect on the general purpose lanes in comparison to the No Build Alternative.

As shown in Section 3.5, Table 3.5.4, in the 2040 AM peak period, the Build Alternative would increase the volume served on SR-91 westbound by 1 percent east of the *91 Express Lanes* merge and diverge area (access to and from the express lanes near Green River Road) and by 47 percent west of the merge and diverge area along SR-241 southbound. In the 2040 PM peak period, the Build Alternative would be able to serve slightly more vehicles. With the Proposed Project, there would be an improvement in the overall efficiency of the system.

Safety

The discussion in this section is based on information from the *Draft Project Report* (August 2016). Accident data was provided by Caltrans District 12 and encompassed a 3-year period from October 1, 2009, through September 30, 2012. The data included the following locations within the Project Area: the SR-91 Mainline, the SR-241 Mainline, and the SR-91 ramps at Gypsum Canyon Road.

SR-91 Mainline

The westbound SR-91 actual accident rates are lower than the statewide average accident rates. The fatal accident rate is above the statewide average accident rate at PM 17.70-17.90 due to a single fatal accident. The highest concentration of accidents occurred at the following three segments, each ranging between 24 and 30 accidents over the course of the 3-year span:

- PM 15.70 and 15.95
- PM 15.95 and 16.20
- PM 16.20 and 16.45

The eastbound SR-91 total actual accident rate is above the statewide average rate from PM 16.20-16.95 due to a higher number of collisions and collisions involving

injuries. The highest concentration of accidents occurred at the following three segments, each ranging between 40 and 82 accidents over the course of the 3-year span:

- PM 16.20 and 16.45
- PM 16.45 and 16.70
- PM 16.70 and 16.95

The highest percentage of reported accidents for the westbound and eastbound SR-91 segments listed above are rear-end type collisions, followed by sideswipe collisions. Rear-end collisions are typically associated with congested traffic conditions when a roadway has exceeded traffic capacity. Sideswipe collisions are attributed to lane weaving in congested areas. The collision history does not correlate to any existing nonstandard features.

The Proposed Project would provide increased capacity and reduced traffic congestion. Although mandatory design exceptions are proposed along the eastbound SR-91 mainline, they are either existing conditions which are being maintained or maintained and improved. Advisory design exceptions are not being introduced to the SR-91 mainline. The Proposed Project is not anticipated to contribute to any increase in the number or severity of collisions.

SR-241 Mainline

The actual accident rates on northbound SR-241 are generally lower than the statewide average accident rates. However, that total accident rate is above the statewide average rate from PM 37.85-38.10 due to a higher number of collisions and collisions involving injuries. The fatality and injury rate is also above the statewide average rate from PM 37.85-38.10 and only slightly above the statewide average from PM 38.10-38.35 and PM 38.35-38.60. In total, SR-241 in the Project Area had only three collisions, which makes it difficult to draw a correlation between the collisions and an existing deficiency.

The highest percentage of reported accidents for northbound SR-241 are rear-end type collisions, followed by sideswipe collisions. Rear end and sideswipe collisions can be attributed to the steep downhill topography of the northbound SR-241, which requires significant breaking and weaving onto the SR-91 and which creates a scenario for potential future collisions.

The Proposed Project does not introduce any design exceptions to SR-241, and would reducing the merge and weaving conditions by adding additional capacity in the form

of the direct connector as well as a physical separation between the northbound SR-241 to westbound SR-91 and the northbound SR-241 to eastbound SR-91 general purpose lane connectors.

The actual accident rates for southbound SR-241 are lower than the statewide average accident rates. Of the five segments, only two segments had accidents, with only a single incident occurring at each segment over the course of the 3-year span.

SR-91 Westbound and Eastbound Ramps (at Gypsum Canyon Road)

The actual accident rates at the SR-91/Gypsum Canyon Road ramps are lower than the statewide average accident rates. Of the six ramps, only three ramps had accidents, with only a single incident occurring at each ramp over the course of the 3-year span.

The Proposed Project's geometry at the ramps includes a number of design features. Although the proposed design features do not typically correlate to an increased number or severity of collisions, the proposed geometry conforms with comfortable speed design and includes safety features to minimize potential collisions at the ramps.

1.2.2.2 Roadway Deficiencies

Roadway deficiencies are described below. These deficiencies negatively affect traffic flow and worsen an already congested SR-91 during peak hours. They also affect traffic flow on northbound SR-241.

Northbound vehicles on SR-241 cannot access the eastbound *91 Express Lanes*. Access from northbound SR-241 to eastbound SR-91 is provided by means of a two-lane connector that merges with the SR-91 general purpose lanes.

Westbound SR-91 Express Lane motorists cannot access southbound SR-241. Access from westbound SR-91 to southbound SR-241 is provided by means of a two-lane connector that diverges from the general purpose lanes.

Long queues of vehicles are frequent on the northbound SR-241 connector to the eastbound SR-91 general purpose lanes during PM peak hours (also refer to the percent unserved in general purpose lanes, Table 1.3, between Gypsum Canyon Road and the SR-241 ramp [northbound SR-241 to eastbound SR-91]). The demand exceeds capacity and, as a result, motorists travel in the lane designated for westbound SR-91 and then change lanes right before the two connectors separate into

the lane designated for eastbound SR-91 (i.e., inappropriately “queue jump”) during congested traffic periods, which causes unsafe conditions. A barrier is needed between the existing northbound SR-241/eastbound SR-91 and the northbound SR-241/westbound SR-91 general purpose connectors to prevent vehicles traveling on the westbound SR-91 general purpose connector to “queue jump” into the eastbound SR-91 general purpose connector.

1.2.2.3 Social Demands or Economic Development

Regional Plans

Growth management and control plans and programs in the Study Area include the SCAG RTP/Sustainable Communities Strategy (SCS), the Orange County Congestion Management Program (CMP), Master Plan of Arterial Highways (MPAH), and the Long Range Transportation Plan (LRTP).

Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, established the objective of reducing greenhouse gas (GHG) emissions in California to 1990 levels by 2020. AB 32 delegated to the California Air Resources Board (ARB) the responsibility to develop regulations to achieve the GHG emissions reduction goal. In the AB 32 Scoping Plan, ARB adopted a set of control strategies for different industries and sectors to achieve the required GHG emissions reduction goal. The AB 32 Scoping Plan identifies a five million metric ton reduction in GHG emissions reduction from regional transportation sources throughout the State. In addition, the AB 32 Scoping Plan identified other substantial GHG emissions reductions required to be achieved from California's motor vehicle emissions standards.

Subsequent to the enactment of AB 32, the Legislature adopted Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008, to establish detailed requirements for reducing regional transportation GHG emissions through the regional transportation planning process, applicable to local, regional and State transportation projects. ARB adopted regional GHG reduction targets for each Metropolitan Planning Organization (MPO) in California (e.g., SCAG) through a SCS adopted by the MPO. The SCS is a GHG reduction plan that is coordinated with the RTP prepared by the MPO that is consistent with the regional housing needs that are also determined by the MPO.

The SCAG Region incorporated its SCS into the 2012–2035 RTP/SCS to ensure consistency between the region's transportation plan and land use strategies to reduce GHG emissions from motor vehicles. The SCAG 2012–2035 RTP/SCS includes a

strong commitment to reduce emissions from transportation sources to comply with AB 32 and SB 375, improve public health, and meet the National Ambient Air Quality Standards as set forth by the federal Clean Air Act. As such, the 2012–2035 RTP/SCS includes transportation and land use strategies to reduce air emissions, including GHG emissions. These programs are designed to reduce congestion, increase access to public transportation, reduce trips and shorten trips, and enhance coordination between land use and transportation decisions. The RTP/SCS also contains a regional commitment for the broad deployment of zero- and near-zero emission transportation technologies in the 2023–2035 time frame and clear steps to move toward this objective. The 2012–2035 RTP/SCS puts forth an aggressive strategy for technology development and deployment to achieve this objective. This strategy will have many co-benefits, including energy security, cost certainty, increased public support for infrastructure, greenhouse gas reduction, and economic development. Regional freeway projects outlined in the RTP/SCS include improvements to SR-241 and SR-91 in the Study Area. These freeway improvements in concert with rail, transit, and active transportation improvements, and land use planning programs will meet federal air quality standards and comply with AB 32 and SB 375.

The Orange County CMP was required as a result of AB 471, and as subsequently modified by AB 1791, which requires urbanized cities with a population of 50,000 or more to adopt a CMP. The program requirement became effective when Proposition 111, which increased the State Gas Tax by nine cents over a 5-year period, was enacted by the voters in June 1990. The CMP also contributes to federal Congestion Management System (CMS) requirements, which work towards a systematic process to manage congestion and provide information to decision-makers on transportation system performance and alternative strategies for alleviating congestion and enhancing the mobility of persons and goods. This database of information on congestion can then be used for selecting and implementing cost-effective strategies to manage new and existing facilities. The CMS also establishes performance measures to identify and monitor the extent of both recurring and non-recurring congestion and the effectiveness of congestion reduction and mobility enhancement strategies. The goals of Orange County’s CMP are to support regional mobility and air quality objectives by reducing traffic congestion; to provide a mechanism for coordinating land use and development decisions that support the regional economy; and to determine gas tax fund eligibility. To meet these goals, the CMP contains a number of policies designed to monitor and address system performance issues. OCTA developed the policies that constitute Orange County’s CMP in coordination

with local jurisdictions, Caltrans, and the South Coast Air Quality Management District (SCAQMD). Required elements identified in the CMP in the Study Area include highway level of service standards, transit service, transportation demand management, Land Use Impact Analysis, and Capital Improvement Programs (CIP). Although the passage of AB 2419 (statutes of 1996) provided an opportunity to opt out of the CMP process, OCTA's Board of Directors elected to continue with it, and the CMP remains relevant as a requirement for local jurisdictions to receive Measure M2 funds.

The MPAH was established by the County of Orange in 1956. The purpose of this plan is to ensure that a regional highway network would be planned, developed, and preserved in order to improve the County of Orange's existing freeway system. Improvements included as part of the Proposed Project are consistent with street classifications and proposed interchange locations identified by the MPAH.

The LRTP established by the OCTA outlines a vision for multimodal transportation improvements throughout the County of Orange. These projects, programs, and improvements are designed to address the transportation needs of the County of Orange residents, commuters, and visitors for the next 25 years. OCTA prepares the LRTP every four years to account for new planning efforts, as well as changes in demographics, economic conditions, and available sources of transportation funding and submits the LRTP to SCAG for inclusion into the RTP/SCS. The Proposed Project is included in the 2014 LRTP's Preferred Plan Freeway Projects.

Local Plans

The Land Use Elements in the General Plans for the jurisdictions in the Study Area identify the future planned land uses. A description of General Plan land uses by jurisdiction is provided in Table 1.6. The data were compiled into general land use designations for consistency throughout the various jurisdictions.

Much of the developable land in the Study Area and vicinity is either already developed or has development entitlements. Although the area in the southeast quadrant of the SR-241/SR-91 interchange is covered under the Mountain Park Specific Plan (MPSP), in August 2014, the Irvine Company permanently dedicated to the County of Orange the final 2,500 acres of land in the area of the City of Anaheim's MPSP as permanent open space. Therefore, no further development under the MPSP will occur.

Table 1.6 General Plan Land Use

Jurisdiction	General Plan Land Use
County of Orange	Unincorporated County of Orange land in the Study Area is designated in the County General Plan as Open Space/Recreation, which provides for limited land uses that do not require substantial urban infrastructure.
County of Riverside	The most common County of Riverside General Plan designations in the Study Area are Rural and Open Space land use designations. Other land use designations include residential and commercial.
City of Anaheim	The land uses in and adjacent to the Study Area are designated Residential and Open Space/Recreation. The Open Space/Recreation designation in the City of Anaheim's General Plan is for areas intended to remain in natural open space, utility easements that provide recreational access, landscaped freeway remnant parcels, and land areas surrounding major water features. The City's General Plan designates these areas south of SR-91 and on each side of SR-241 for residential uses. The MPSP generally guides development in this part of the City; however, the final 2,500 acres of land in the area of the City's MPSP was dedicated to the County of Orange as permanent open space in August 2014.
City of Yorba Linda	The City of Yorba Linda's land use designations in the Study Area consist of Residential, Open Space/Recreation, Industrial, and Commercial/Office uses.
City of Orange	The City of Orange's General Plan designates the area southwest of the SR-241/SR-91 interchange for both Residential and Open Space/Recreational uses.
City of Corona	The planned land uses along SR-91 in the City of Corona include Residential, Mixed-Use, Industrial, Commercial, and Open Space/Recreation.

Source: Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy GIS Data (2012).

GIS = geographic information system

MPSP = Mountain Park Specific Plan

SR-91 = State Route 91

SR-241 = State Route 241

Several infrastructure projects are underway in the land use Study Area and vicinity along SR-91, the Burlington Northern Santa Fe (BNSF) Railway, and along the Santa Ana River. As discussed in Section 1.1.1, the SR-91 CIP will contribute to the need for a direct connection between the SR-241 and the *91 Express Lanes*.

1.2.2.4 Modal Interrelationships and System Linkages

Information concerning related projects provides contextual information for the Proposed Project and identifies how the transportation agencies have coordinated transportation planning efforts. The Proposed Project would be implemented in a manner that is consistent with other programmed and planned improvements such as the SR-91 CIP. The Proposed Project is designed to connect directly to the *91 Express Lanes* and would be compatible with the approved SR-91 CIP for both the initial and ultimate configurations.

The Proposed Project is an important linkage between tolled systems in the County of Orange and would close an important gap between SR-241 and SR-91 and provide a direct linkage from and to tolled facilities. The proposed connectivity between

SR-241 and SR-91 was always included in the regional transportation plans as part of the ETC project.

The existing public transit linkages between the counties of Riverside and Orange are bus and commuter rail. Metrolink commuter rail services between the counties of Riverside and Orange operate on railroad tracks owned by BNSF. Metrolink commuter rail service between the two counties is nearing capacity on existing equipment. As identified in the Major Investment Study Locally Preferred Strategy (MIS LPS), all transit components in the SR-91 CIP Study Area (which overlap with the Proposed Project Study Area) were to be maximized as part of all future transportation improvements. As part of the MIS process, Caltrans, OCTA, and RCTC are evaluating transit improvements in the Project Area through coordination with elected officials, interested stakeholders, and other public outreach. Buses would benefit from the lack of congestion on tolled lanes. The Proposed Project would substantially improve conditions on the tolled lanes, providing opportunities for expansion of future bus services.

Express bus service operating on SR-91 provides connections from the County of Riverside to employment centers in the cities of Anaheim, Costa Mesa, Fullerton, and Irvine in the County of Orange. OCTA Route 794 operates between the Galleria at Tyler in Riverside (near the La Sierra Metrolink station) to South Coast Metro in Costa Mesa. Riverside Transit Agency (RTA) Route 216 operates between the Riverside Downtown Terminal and the Village at Orange. Increase in vehicle throughput on SR-91 in the Project Area would improve bus service.¹ Increase in vehicle throughput on SR-91 in the Project Area would improve bus service.

1.2.2.5 Air Quality Improvements

The Proposed Project is identified in the 2015 FTIP as a proposed Transportation Control Measure. The Proposed Project provides a regional benefit to air quality by (1) reducing the traffic delay in the general purpose lanes¹ on SR-91 through the elimination of weaving movements, especially during peak hours; (2) maintaining the attractiveness of toll facilities/managed lanes through increasing the efficiency of facility-to-facility transition;² and (3) providing additional capacity for HOVs and buses.

¹ Orange County Transportation Authority. Website: <http://www.octa.net/Bus/Routes-and-Schedules/eBusbook/eBusbook-February-2016/>.

² Riverside Transit Agency. Website: <http://www.riversidetransit.com/index.php/riding-the-bus/maps-schedules>.

1.3 Independent Utility and Logical Termini

The project limits for the Proposed Project were defined based on providing a logical and independent set of improvements. Logical termini are defined as rational end points for transportation improvement and analysis of the potential environmental impacts of a proposed project. A project is defined as having independent utility if it meets the project purpose in the absence of other improvements in the project segment or in other parts of the corridor.

1.3.1 Logical Termini

The Proposed Project provides logical termini for the proposed improvements to SR-241 and SR-91 because it provides for direct connections between major transportation facilities (the tolled lanes on SR-241 and SR-91), which themselves are destinations of major traffic volumes. The Proposed Project would tie into the northern terminus of SR-241 and the western limits of the initial SR-91 CIP. Because it would provide connections to toll lanes on existing freeways in the Study Area, those connection points are logical termini for the express lanes connector.

1.3.2 Independent Utility

The Proposed Project would have independent utility. It would provide benefits to the traveling public without requiring or being dependent on the provision of additional future improvements on SR-91, SR-241, or other freeways or arterials. The Proposed Project would benefit travelers as they advance between the tolled lanes on SR-91 and SR-241. The Proposed Project is being designed to connect to the SR-91 CIP, which is currently under construction; however, it is not dependent on the SR-91 CIP. If the SR-91 CIP were not constructed, the Proposed Project connector would still be needed to connect SR-241 to the existing SR-91 HOV lanes. The Build Alternative represents a reasonable expenditure even if no additional transportation improvements are made in the corridor. This Build Alternative can be implemented in the absence of any additional improvements, and it does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements in the SR-241/SR-91 corridor. Because the Build Alternative meets the project purpose regardless of other proposed improvements in the SR-241/SR-91 corridor, the Proposed Project would have independent utility.

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